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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

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TITLE

FOREST INSECT SURVEY, LASSEN VOLCANIC NATIONAL PARK

Season of 1941

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By
R. C. Hall
Berkeley, California
December 20, 1941

U. S. GOVERNMENT PRINTING OFFICE 8—9742

SUBJECT—

INDEX No.—

Forest Insect Laboratory
Berkeley, California
December 20, 1941

FOREST INSECT SURVEY, LASSEN VOLCANIC NATIONAL PARK

Season of 1941

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FOREST INSECT SURVEY, LASSEN VOLCANIC NATIONAL PARK
Season of 1941

INTRODUCTION

A survey of insect conditions in the Lassen Volcanic National Park was made in the fall of 1941 by Ralph C. Hall assisted by Park Rangers Vaughn, Rutter, and Patterson. Methods of survey consisted of a rather thorough reconnaissance, on foot, of high use areas, and a road strip survey along the mainly traveled highways.

CHARACTER OF THE 1941 INFESTATION

In general the infestation of the 1941 season was characterized by decreases in activity of practically all insect species indigenous to the Park. The principal exception to this is the Jeffrey pine beetle, Dendroctonus jeffreyi Hopk., which in local areas, particularly where no control work has been done, has shown little decrease for 1941. The 1941 growing season has been abnormal, particularly at high elevations, such as characterize much of the Park area. Initiation of tree growth and insect activity was delayed almost a month in the spring and was followed by a cooler than normal summer, which caused a considerable retardation in insect development. By October 1 the Jeffrey pine beetles were still in the small larval stage when normally they should have been full grown. Then too, conditions for tree growth have been generally more favorable in 1941 than in 1940. These combinations of influences have lead to slower fading of infested trees which means that fall spotting of infested trees is expected to reveal only a portion of those attacked. In view of this situation, it would be highly desirable to make a spring survey of the more important high use areas to spot any additional trees which might fade during the winter.

DISCUSSION OF SPECIFIC AREAS

Infestation conditions in the park will be discussed under three main headings: A, High Use Areas, which include camp grounds, picnic grounds, and permanent building sites; B, Areas Along Highways; and C, Miscellaneous.

A. High Use Areas

These areas will be discussed under seven headings: 1. Manzanita Lake; 2. Summit Lake; 3. Kings Creek Camp Ground; 4. Sulphur Works Camp Ground; 5. Butte Lake; 6. Warner Valley; and 7. Juniper and Horseshoe Lake Camp Grounds and Snag Lake. These are shown on the map in Figure 1 with the colored portions indicating the approximate areas on which spotting of infested trees was rather thorough.

1. Manganita Lake

This area includes all the timbered area from the "Y" north of the Manzanita Lake Checking Station to the Chaos Jumbles. This is the area where the bulk of the insect control work has been concentrated in the Park in the past. Due to limited control facilities, only a partial clean up was possible in 1941. However, a thorough control job was done in 1940. It is the conviction of the writer that this control work has paid real dividends. The number of infested Jeffrey pine trees has been reduced from 27 in 1940 to only 6 in 1941. This is a real contrast from other areas of Jeffrey pine north of the Park near Prospect Peak and in the Park at Warner Valley where no control work has been done and where the number of infested trees for 1941 remain about the same as for 1940.

In addition to the infested Jeffrey pine there are 3 white fir infested with the fir engraver beetle Scolytus ventralis Lec. and the roundheaded fir borer Tetropium abietis Fall, and 2 sugar pines infested with the mountain pine beetle. Dendroctonus monticolae Hopk.

Recommendations: Control is strongly urged for all the infested pine trees in this area. This would involve a minimum of effort compared to previous years and should reduce the population to a point where future control would be simple. It is particularly urgent that the infested tree between the museum and the art shop be treated as loss to adjacent trees in this area would be quite serious. In view of the late development of the beetles, control work could safely be done in the area anytime before July 1, 1942.

2. Summit Lake

This unit includes the area around the Ranger Headquarters, the camp ground, and the timber adjoining the Lake.

The infestation here is confined principally to the mountain pine beetle in lodgepole pine with some fir engraver work in red fir. There has been a reduction in the number of infested lodgepole pines in this area from 21 in 1940 to 11 in 1941. The mountain pine beetle attack in lodgepole does not appear very aggressive in this area with only an occasional tree heavily attacked.

Recommendations: Control in lodgepole pine in this area is recommended only if adequate control facilities permit.

3. Kings Creek Camp Ground

No infested trees were found in this area.

4. Sulphur Works Camp Ground

Insect activity in this area is confined almost entirely to injury to red fir by the fir engraver and the roundheaded fir beetle. There has been a considerable reduction in insect activity in this area in 1941, there being only 7 infested trees as compared to 12 in 1940.

Recommendations: Control is recommended for this area, but only if adequate control facilities are available.

5. Butte Lake

This unit includes the area around the camp ground and the timber adjoining the Lake on the north, east, and south. A slight reduction in Jeffrey pine beetle activity was noted here with most of the current infestation limited to the west facing slope east of the Lake and along the trail to Widow Lake. Only two infested trees were observed in the camp ground area. There also appears to have been some reduction in the activity of the mountain pine beetle in lodgepole south of the Lake.

Recommendations: Treatment of the two trees in the camp ground area is recommended, but no control for the other areas unless adequate facilities permit.

6. Warner Valley

Considerable activity by the Jeffrey pine beetle was observed in this unit, but principally confined to small poles. Twenty-one infested trees were found in 1941 compared to 20 in 1940.

Recommendations: Control is recommended for this area, but to have low priority.

7. Juniper and Horseshoe Lake Camp Grounds and Snag Lake

This area was not visited as the local Rangers reported no serious insect activity in either of these areas.

B. Highway Areas

Under this heading will be discussed the infested trees bordering the main Loop highway through the Park. For convenience this strip will be separated into three zones with more or less distinct timber types in each.

1. Chaos Crags to Hat Lake

Losses along this section of the highway are primarily confined to Jeffrey pine and white fir, although ponderosa pine, sugar pine and red fir also occur occasionally.

Losses in all species appear to be slightly less in 1941 than in 1940.

Recommendations: No control is recommended except for Jeffrey pine between Chaos Crags and Emigrant Springs.

2. Hat Lake to the Summit

Losses along this section of the highway are confined to red and white fir with some reduction noted in 1941.

Recommendations: In the 1940 report the following recommendations were made: "From the standpoint of loss of cover, red fir ranks first among the other species along the main loop highway in the Park. From the scenic values involved it would appear desirable to attempt control of the fir engraver beetle if control facilities permit. Many of the infested trees along the right of way will eventually develop into snags which constitute a traffic hazard and will need removal later. Therefore it would seem desirable that this removal be made while the insects were still in the trees so that this portion of the population might be destroyed".

These considerations still apply to conditions found in 1941.

3. The Summit to South Boundary

Losses in this sector are much the same type as those discussed under 2 above, except that practically all loss is confined to red fir.

Recommendations: The same as for No. 2.

C. Miscellaneous Infestations

There are two areas in addition to those discussed above which might be mentioned as worthy of control consideration. These include the area of Jeffrey and ponderosa pine in the Lost Creek area and an active infestation in a white fir pole stand about a mile north of the Loop highway-Lost Creek crossing.

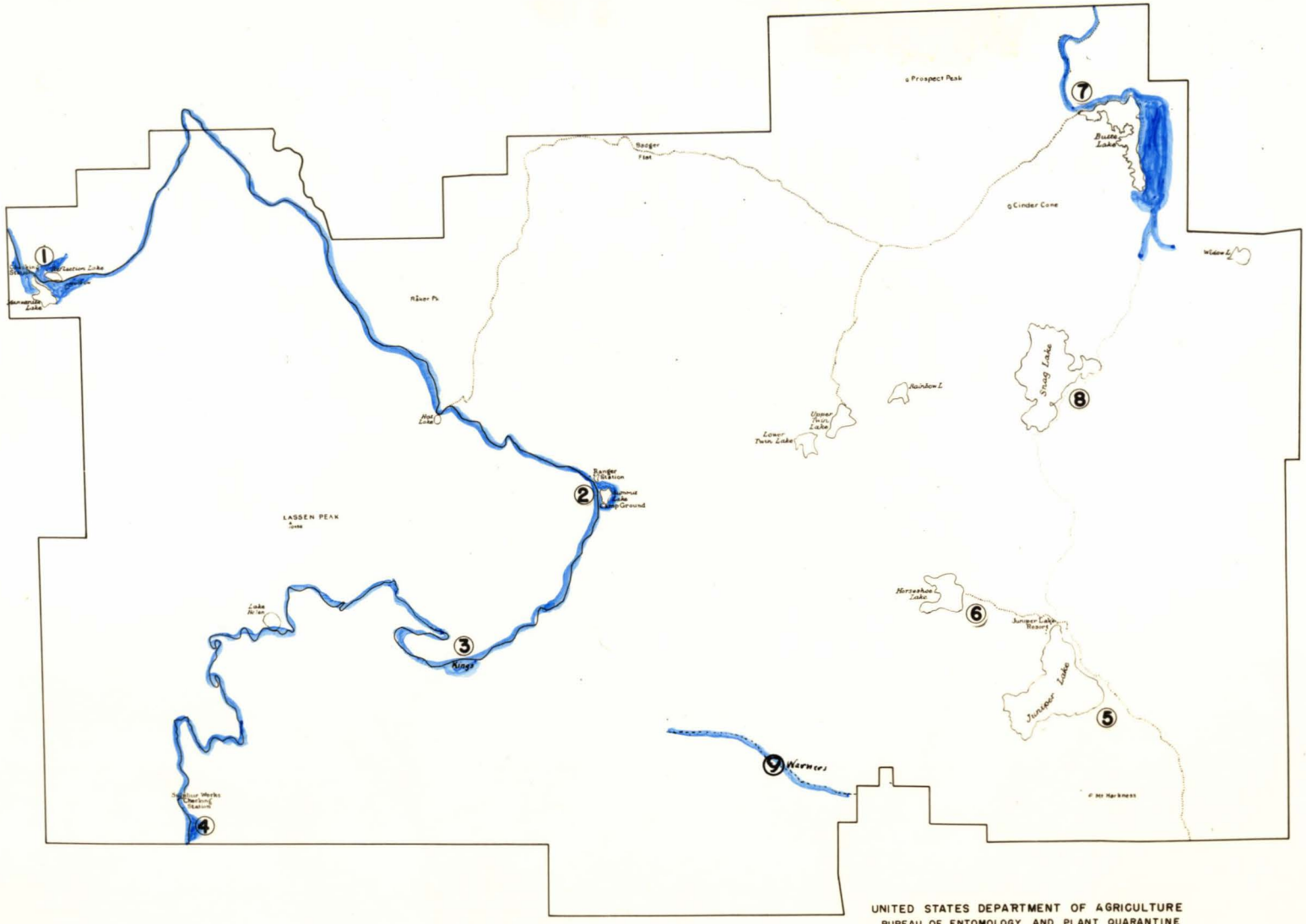
There is a fairly aggressive infestation in Jeffrey and ponderosa pine still going on in the Lost Creek area and attempts of control might be made if facilities permit.

There has been some reduction in the fir engraver infestation in white fir poles about a mile north of Lost Creek at the point at which it crosses the Loop highway, but the infestation still remains in the epidemic stage. It is estimated that during the past three years there has been a loss of approximately 200 fir poles in this area. Although this infestation appears to be subsiding, it is expected that there will be a considerable additional loss of cover within the next two years unless control measures are adopted.

SUMMARY OF CONTROL RECOMMENDATIONS

In the previous part of this report certain control recommendations have been made for specific areas. These are principally based upon entomological considerations, but are tempered somewhat by the possibilities of practical application and the intensity of public use in the areas involved.

In order of priority the most urgent control recommendations might be summed up as follows: 1. Manzanita Lake and vicinity to have highest priority; 2. Butte Lake Camp Ground; 3. Summit Lake Camp Ground; 4. Warner Valley; and 5. Section of Loop Highway from Chaos Crags to Emigrant Springs.



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FOREST INSECT LABORATORY - BERKELEY, CALIFORNIA

FOREST INSECT SURVEY

LASSEN VOLCANIC NATIONAL PARK

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Fig. 1